

# JACG 74CE

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THE JERSEY ATARI COMPUTER GROUP

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From the Editor's  
Desk....

In This Issue  
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A little bit at a time, we are getting to see what is going on behind the closed doors at the new Atari. In spite of bad press, unsettling overnight personnel changes and a reputation of broken promises the Tramiel organization is coming through the pc shakeout war relatively unscathed. They are, in fact, coming out with a chest full of ribbons.

The European theater has been a resounding victory. The 520ST and the new 1040ST have Germany and France locked in a love affair, to the point of doing heavy damage to Big Blue. These machines are currently the far and away overseas best sellers for business and private use. Other countries will most likely follow the same pattern when tariffs and distribution patterns are established.

On the home front it was just announced that the one megabyte machine will be available immediately. With everything in ROM and an integral disk drive in its right side, the impressive 1040 is only available through authorized computer dealers. Good strategy. The 520, however, is going the way of the other machines, i.e., discount counters. The General says it's a good move. History books will tell. He is playing wargames with his supply lines.

The factories at home, and some abroad, are cranking out all kinds of ammunition for the 8 and 16 bitters. It is sweet to see the software flow. The citizenry seems to be coming aware of what is really needed and is turning to that effort. The year portends to be a good one, a healthy one, a time of victories and jubilation and a realization that being both intelligently certain and fiercely loyal does, indeed, pay off.

Okay, General, go for it!

Frank Pazel  
Editor-in-Chief, JACG Newsletter

The View From White House - M. Martin . . . . .	2
The Winter Consumer Electronics Show - R. Kushner .3	
The Mathematics Of Mathematics - D. Forbes. . . . .	4
Atari's 1040ST. . . . .	6
January Meeting Highlights - J. Kennedy . . . . .	6
1985 JACG Treasurer's Report. . . . .	7
Programmable Keypad Handler - D. Kramer . . . . .	8
Sums Of Squares Series - K. Pietrucha . . . . .	9
Video Games Still Hot . . . . .	9
Word Magic - P. and A. Greenhut . . . . .	10
Easter Egg. . . . .	11
Getting To Know The ST - J. Budelman. . . . .	12
Chris Crawford Revisited - D. Forbes. . . . .	13
XM - 30 What? - M. Knutsen . . . . .	14
Voice Recognition For The Atari - R. Lopes. . . . .	19
Noise From Noyes - D. Noyes . . . . .	20
PDG - J. Kennedy. . . . .	22
Why Binary? - M. Schneider. . . . .	23
Wall St. Millionaire Spreadsheet - D. Forbes. . . . .	24
Pet Peeves - P. Madden. . . . .	26
Teacher's Pet - W. Brooks . . . . .	27
Home Computer Magazine - M. Schneider . . . . .	28
Playing Catch-up - M. Schneider . . . . .	29
An Interesting Observation - R. Lent. . . . .	30
Vortex - M. Price . . . . .	30
Cartoons By Tony Pellechio. . . . .	9,11,12,30

## MARK YOUR CALENDARS!!

### JACG Meeting Schedule

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March 8, 1986

April 12, 1986

May 10, 1986



## THE VIEW FROM WHITE HOUSE.

The Presidents' message.  
by Bill Martin

HOT LINE TO THE PRESIDENT. - (201) 534-6349

DID I, DO THAT? I'm writing this on a cold day in January and it seems very funny to me. It's the kind of day I en-visioned it to be when Digital Devices of Atlanta, GA, would change their retro-fit policy on the U-Print interface. In front of me is a print out taken from Compuserve, Antic SIG. According to Antic magazine; Digital Devices has changed it's policy and will perform the chip replacement for a postage and handling fee of \$6.00. A far cry from the \$35.00 I sent to them in December. They promised a 10 day turn around and it's been 30 days (at this writing). Now, I'm out an interface and \$35.00. Maybe the pen IS mightier than the sword, or maybe I'm just out of luck! I'll wait and see. To be continued.

SHOW ME THE WAY TO THE JACG. Would you believe that Jerry Frese, Program Director got lost on his way to the January meeting? It happened that he was driving East on Route 78 and missed the turn off at Exit 41. It seems that the state had decided to open the road through Watchung and removed the barriers that previously kept you from continuing on. I can't laugh too loud though because I fell for the same thing.

LOOKING FOR A FEW GOOD MEN/WOMEN. The JACG has some positions available. You are the club, you are the membership. You are the ones who make a brighter.... Hey!, Come on now. Volunteer! We need you! If I don't get any volunteers, I'll have to start up the draft again.

Disk Librarian. No experience required. Work at your own speed. No pressure. Attendance required at monthly meeting. Contact Don Ursem.

Sales Manager. Coordinate group purchases. Develop and facilitate a plan so that members can sell (through the sales department) individual pieces of used software. No experience necessary. Pre-requisites are honesty and attendance at monthly meeting. See me or call me on the Hot Line.

Hot Line Assistance. I don't know all the answers. Send me a postcard or call me on the Hot Line with your name, phone number and area of expertise. Also, please let me know any restrictions as far as time, like "before 10 P.M.". If I get a call that I can't answer, I would refer it to the person most qualified. Believe me, it's not a lot of work. See me or call me on the HOT Line.

DEMONSTRATORS At The Meeting. (not to be confused with any political meaning). We are always in need of people to demonstrate soft/hardware at the meetings, especially teachers or people who are experienced public speakers. We will even arrange to loan you the software to demo. Call Jerry Frese.

LANGUAGE SIG TEACHERS. We are looking for teacher's of Basic, "C", and Assembler to start up some new SIG's. Contact Scott Brause.

SPEAKING OF SIG's. The ever prolific Donald Forbes has consented to be the start up point for a FORTH SIG, which would actually be the "third". Confusing? Not really. So far we have an ST and a Robotic's SIG going so "FORTH" is actually the third.

LATEST WORD FROM CES.

...? Will the excitement generated by ATARI ever cease?

THE LAST WORD. Special thanks to Scott Brause for presiding over the January meeting. This was like a practice session for him since I was present. That was baptism of fire. Baptism of blood comes in March when he will be in charge as I will be out of town. You've got to give him a lot of credit. I don't think I could have stood up in front of 300 people when I was his age. "H", "E", "double hockey sticks", I still get stage fright every time I get up in front of a crowd after more years than I'd like to admit.

ADVANCE WARNING. Be prepared for the April meeting when my 2 year old will be demonstrating ATARIGRAPHICS and the ATARI light pen. You asked for it!



OOOPS!  
ST Library  
From Leyenberger

The credit for the ST Library disks was inadvertently given to the wrong source in the last issue. It was our very own Art Leyenberger who spent many, many hours consolidating and typing in order to put our disks in such good shape.

Sorry about that, Art. We thank you for this gargantuan effort on our part.



## The Winter Consumer Electronics Show By Richard Kushner -JACG

WCES - the Winter Consumer Electronics Show - is held each year in Las Vegas and is the ultimate showplace for the latest innovations in electronics. Here 1400 companies display their wares for 100,000 attendees in a space larger than 15 football fields spread over the Las Vegas Convention Center and two hotels as manufacturers seek favor with distributors and sign up retailers. Here you will see displays ranging from the latest in digital audio and video, satellite TV dishes and computer software to tape display racks for video stores, cheap digital watches in rainbow colors and lasers that trace patterns on the wall in response to music.

It also shows the changing state of the home computer market. Whereas last year there were several computer makers showing off hardware and several dozen software companies, this year only Atari chose to be present and the dozen or so software makers tended to huddle together under the banner of a distributor rather than having their own displays. Such is the changing (shrinking?) world of home computers.

Atari displayed the 1040ST (built-in double sided, double density disk drive, TOS in ROM, \$1000 monochrome, \$1200 color), the one megabyte version of the ST, and showed a number of different software products from third party sources for the ST. The ST price is coming down another \$100 and it can now be purchased separate from the disk drive and monitor. In the absence of any price competition from anyone, it isn't clear why Atari dropped the price. They say they are just passing along their savings. Hmmmmm.

Since the 800XL supply has finally dried up, Atari unmothballed the 65XE, the smaller brother of the 130XE. They have a \$399 word processor package that includes the 130XE, 1050 disk drive, printer, AtariWriter, Silent Butler, Music Painter, Paint and Star Raider. And, to everyone's surprise, Atari is back making the 2600 game machine! It seems that they managed to sell more than one million of these guys in 1985 with no advertising. This so encouraged them that they are manufacturing them again and also making the 7800 system, introduced about a year ago, which plays 2600 cartridges and also some cartridges with higher resolution displays and better sound. Will wonders never cease!

There were plenty of rumors about a 32 bit machine, leading one to believe that the Hanover Fair in Germany in a few months will be the showcase for this unveiling.

There were also some interest seminars. One featured speakers from major software producers for the home computer market, Activision, MicroProse, Electronic Arts and Infocom. Their message was basically that any other

business would be happy have the 20% growth that computer software had last year, so out with the gloom-and-doom and let's put on a happy face. They were, of course, correct. However, the press has come to expect explosive growth, not just steady growth. Trip Hawkins, the egomaniac who heads Electronic Arts, seems to have a thing for the Amiga and against the ST computer. He went out of his way to make this very clear time and again. This is clearly a love affair with a computer that is 90% emotional and only 10% intellectual. All the others are supporting the ST to some degree, while waiting to see how the sales of both of these machines go. While the Apple and C-64 computer base was mentioned there was a distinct shunning of the 800/800XL/130XE owners. The explanation offered to me by Neil Harris of Atari was that most owners buy most of their software in the first 90 days of ownership and, since the Apples and C-64s are selling, the software people make product for these new owners. This implies that the Ataris are not selling well! Tell me it isn't so, Neil!

Another seminar featured a representative from Atari and one from Commodore. Needless to say, they had few good things to say about each other and spent most of their time hyping their own products.

Other electronics at the show were really terrific. Hundreds of satellite TV dishes were on display and the hot topic was, of course, signal scrambling (HBO now scrambles 24 hours/day). Until this issue is settled, this business is on hold.

Casio had a great exhibit of music synthesizers. A new one had some great sounds built-in, and had four drum pads also. Another had digital signal sampling, where any sound up to 1.4 seconds can be fed in through a microphone and used as part of the music. Awesome!

High definition TV (3-5 years away) was demoed and the picture takes your breath away, as do all the terrific new compact disc players.

Then there were telephones. Yes, the phone is now a consumer product. I found phones in such diverse shapes as lips, rocket ships, pianos, bananas, cucumbers, pelicans, razors, duck decoys, baseball bats, cats and lipstick. There's even a frog whose mouth opens to reveal the keypad. And colors ranging from beige to hot pink to green (for the frog and cucumber, of course). I was puzzled as to how to use the percolator- and electric iron-shaped phones until I was informed that they really were percolators and irons, not phones.

I played blackjack at the same table as Jack and Sam Tramiel. Notice I said at the same table, not for the same stakes! I also played at a table with Robert Woodhead, author of Wizardry. Then there was seeing Miss Universe, the Playboy bunnies and the Pet of the Year at the show. It's a tough job, but someone has to do it.

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## The Mathematics of Mathematics (4)

Copyright 1985 Donald Forbes - JACG

Are you a well-rounded mathematician? How many of the topics can you identify in the list below? Score yourself one and half points for each YES, and four points for taking the quiz. If you score 100 out of 100 you should be teaching. Otherwise you are one of us.

What is mathematics? If you would be a mathematician's mathematician, then there is only one answer. Mathematics is what mathematicians do.

What they do is defined precisely: in a \$4 40-page document entitled 1980 Mathematics Subject Classification (1985 revision) published by the American Mathematical Society in Providence RI 02940 (P O Box 6248; toll free charge number 800-556-7774).

Incidentally, for another \$28 you can order a 350-page 1985-86 combined membership list of 38,102 mathematicians by name and location in the US and abroad. Sample entry: BURR, STEFAN A. City Coll (CUNY), Comp Sci Dept, New York, NY 10031. Prof (212-690-4284) SAI.

The subject index breaks mathematics into 64 different numbered topics. Several of them are self-explanatory. Many of them fall into clusters. Aside from a few general purpose clusters, the list divides itself into pure math (with groupings for algebra, calculus and geometry) and specific topics within applied math.

The list begins, appropriately enough, with  
00 General  
01 History and biography

Next we have the basic topics in pure math  
03 Mathematical logic and foundations  
04 Set theory

The next topics are mainly algebra  
05 Combinatorics  
06 Order, lattices, ordered algebraic structures  
08 General mathematical systems  
11 Number theory  
12 Field theory and polynomials  
13 Commutative rings and algebras  
14 Algebraic geometry  
15 Linear and multilinear algebra; matrix theory  
16 Associative rings and algebras  
17 Nonassociative rings and algebras  
18 Category theory, homological algebra  
20 Group theory and generalizations  
22 Topological groups, Lie groups

The next topics embrace the differential and integral calculus under the name of analysis  
26 Real functions  
28 Measure and integration  
30 Functions of a complex variable  
31 Potential theory  
32 Several complex variables and analytic spaces  
33 Special functions

34 Ordinary differential equations  
35 Partial differential equations  
39 Finite differences and functional equations  
40 Sequences, series, summability  
41 Approximations and expansions  
42 Fourier analysis  
43 Abstract harmonic analysis  
44 Integral transforms, operational calculus  
45 Integral equations  
46 Functional analysis  
47 Operator theory  
49 Calculus of variations and optimal control; optimization

The next topics are mainly geometry and include topology -- harkening back to the old days when topology was described as 'rubber geometry'

51 Geometry  
52 Convex sets and related geometric topics  
53 Differential geometry  
54 General topology  
55 Algebraic topology  
57 Manifolds and cell complexes  
58 Global analysis, analysis on manifolds

The next three topics represent the frontier between abstract math and applications

60 Probability theory and stochastic processes  
62 Statistics  
65 Numerical analysis

Abstract math ends here. Now we come to the applications. First we find the exact sciences

68 Computer science  
70 Mechanics of particles and systems  
73 Mechanics of solids  
76 Fluid mechanics  
78 Optics, electromagnetic theory  
80 Classical thermodynamics, heat transfer  
81 Quantum mechanics  
82 Statistical physics, structure of matter  
83 Relativity  
85 Astronomy and astrophysics  
86 Geophysics

The inexact sciences now follow  
90 Economics, operations research, programming, games  
92 Biology and behavioral sciences  
93 Systems theory; control  
94 Information and communication, circuits

This is the end of applications. The next three are devoted to education  
96 Mathematical education, elementary  
97 Mathematical education, secondary  
98 Mathematical education, collegiate

The last one is a catch-all for  
99 Unclassified or late

Perhaps you never saw mathematics defined in this manner. But it is the only definition that makes sense if you are going to use mathematics as a tool.

The list is actually disorganized, even though it appears to have some internal structure. We must remember that the list is just that: a list. The classification was never designed as an integrated structure. The 1985 revision is a minor updating of the



1980 listing, which was a major revision of the 1970 classification scheme, which in turn was a major updating of the 1948 scheme.

You must also remember that some needless confusion is created by the fact that mathematical terminology has a long history. Many names are no longer descriptive. A modern committee on terminology today would almost certainly reject embedded terms such as these -- real, imaginary, complex, eigenvalue, eigenvector, partial differential equation, analytic geometry, or several complex variables.

We can clean up some of the confusion by taking the viewpoint of the computer scientist. France's president Raymond Poincare (who was the cousin of Jules Henri Poincare, the mathematician) made the famous observation that war was too important to be left to the generals. Others have said that the education of our children is too important to be left to the teachers. We might add that mathematics is too important to be left to the mathematicians.

Mathematicians, unlike computer scientists, are not trained in the disciplines of top-down and bottom-up programming. The reasons were spelled out long ago.

"The life of a young scientist consists in the main of passing one examination in order to qualify as a candidate for the next. Then, when his final examination is over, he becomes a research student, frequently dependent for further financial aid on the results of his first researches. The number of permanent academic positions open to him is relatively small, and his merit is judged in competition with his contemporaries. Such a competitive system, while it has some merits, inevitably puts a premium on the short term worker, who concentrates all his energy on the immediate object, be it the next examination or the achievement of quick results in the first few researches.

"The young scientist who would commendably devote some of his time to external activities, to humane studies, or even to other branches of science, is likely not to reach such an immediately high standard in his own branch. He is thus at some disadvantage in the bitter competition for early attainment of a permanent position in the academic world. The 'successful' scientist therefore tends to be he who shuts himself off from the external world, and even from other branches of science. The same is true, though perhaps to a lesser extent, in the fields of industry or Government service, where in peacetime scientists are largely recruited from those who have fallen out from the academic competition.

"The premium thus placed in a modern scientific career upon undue concentration at an early stage encourages the production of men with a less-than-average appreciation (for their standard of intelligence) of the world at large. This ignorance may even become a habit in after life, when the energy of the hothouse-forced scientist declines, or when, finding himself outmaneuvered in his first few clashes with professional and classically bred administrators, he retires embittered into

his laboratory and decides that his ignorance is really a virtue, since the worldly-wise are such rogues."

These words were written in November 1945 by Professor Reginald Victor Jones who during World War II was head of scientific intelligence on Britain's Air Staff, and author of "The Wizard War: British Scientific Intelligence 1939-1945." He made an earnest plea to his government to train well-rounded scientists who would have the needed cross-disciplinary skills to help win the next war, but to no avail. His remarks are as true today as they were forty years ago. They make it clear that mathematicians, like other scientists, are specialists -- mainly because the generalists have been carefully weeded out.

Instead of a mathematician's view, we must adopt the viewpoint of the computer scientist.

For a top-down view of the subject matter of mathematics our first task must be to embed the abstract mathematics portion of the subject classification scheme into our model (the applications portion belongs to another story). This will give us a current view of today's mathematics in a coherent framework.

We showed earlier that the topics of abstract mathematics could be pigeonholed in a four-way Veitch diagram which could represent the intersections of geometry (G), algebra (A), calculus -- or analysis (C), and the topology of point sets (T).

	C	G	C	GCT	CT
A	C	G	A	C	A
A		G	A	GAT	A
null		G		G	T

Now we can embed the topics of abstract mathematics in the subject classification scheme inside the same two-way array as follows:

26	53	58	28
33 34	30 31	32 43	44 45
35	42 49	46 47	
5 6 10 11	14	06 18	18 20
12 13 15			22 55
16 17 39			
40 41 60			
03 08	51	52 57	04 54

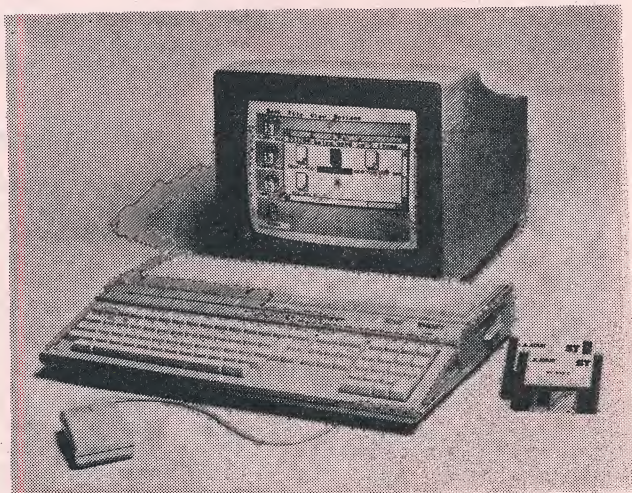
We can now go on to examine the AMS classification scheme in the light of the historical development of mathematics, and note where the four dimensions of abstract mathematics overlap one another.

For example, if we take the first row we see that '26 Real analysis' belongs in the calculus, that '53 Differential geometry' belongs in the intersection of geometry and



calculus, that '58 Global analysis, analysis on manifolds' belongs to geometry, calculus and topology, and that '28 Measure and integration' stands at the confluence of calculus and topology.

What you own now and forever -- and perhaps here lies an appropriate title for this story -- is the prized possession of a well-rounded mathematician: a CONCRETE view of ABSTRACT mathematics.



### Atari's 1040ST

Atari Corporation's new 1040ST is the first personal computer with one megabyte of memory from a leading manufacturer. The machine, offered exclusively to computer dealers for distribution, comes complete with ST BASIC, 1ST WORD word processor, NEOchrome paint program, and the VT52 terminal emulator for telecommunications. Note the integral disk drive on the right side. Shipment of the 1040ST begins immediately. With a high resolution monochrome monitor the price of the package is \$999.95.



## START

An Article  
For The  
Newsletter

## Today!

## JANUARY MEETING HIGHLIGHTS

Reported by  
Joseph S. Kennedy

The usual question and answer period as well as Atari news and rumors preceded the meeting. Scott Brause opened the meeting for club business. Two motions were entered and both were approved by the members. The first authorized the payment of \$350 from the club to Scott Brause to help defray the over \$2500 in losses Scott incurred with the bulletin board in his recent run-in with lightning. The second authorized the issuance of lifetime membership to past presidents as well as any future presidents of the JACG. Scott displayed the ICD R-Time cartridge for date and time stamping files. According to Scott it works well and has a list price of \$69.95. Scott also showed us the Supra hard disk interface that plugs into the 800XL or the 130XE (with a converter). With this interface a hard disk system can be put together for the Atari for around \$400 (just a little less than an 810 two - three years ago!!).

Frank Pazel reported on a correspondent in Indianapolis who is looking for assistance in providing sophisticated input of RPM data to the Atari 8-bit line. Frank is also looking for an Atariwriter printer driver for the printers recently purchased by the group. In the continuing line of amazing software Tom Pazel is producing for use with the Print Shop, Frank demoed a program to convert Print Shop graphics to Visualizer format. In fact, Jerry Frese had used it to prepare the index of the meeting.

Two of our younger members - Brian McNett and Eric Smith - demoed the Arcade Machine. This program allows even the novice computer user to develop his own personal arcade shoot'em up. Control of the attacks, defenders, background, etc. are possible with this program. Brian and Eric found it to be a very good way to express their feelings about dental hygienics with the game they entitled "Dr. Teeth". A scary session in the dentist's chair. Thanks for a good demo guys.

Joe Kennedy demoed two games from the disk library. The first was Livewire which is similar to Tempest. The second was Probowl. A basic bowling game with hooks, gutter balls and automatic scoring. Both programs were reviewed in detail in the December issue of the newsletter.

Sam Cory gave us an excellent discussion on the perils of lightning and static to computer users. After detailing the types of lightning protection Sam offered us the following suggestions to minimize potential problems:

- wear natural fibers
- don't install rugs near your equipment



- raise the humidity as high as possible
- get the power lines and telephone lines protected
- keep fingers out of joystick ports
- if all else fails stay away from the computer in static season

We also would like to thank Sam for his generosity in donating two of the TA-3 telephone line protection devices he sells to Scott for the BBS.

Bill Martin narrated a video tape on accessing Compuserve and downloading a file. This again showed how valuable the use of video tapes can be for demoing certain products or ideas. (Can Werner's downloads of the month be far behind?).

Scott demoed the new XM-301 modem from Atari by accessing the JACG BBS which is now back-up and running. Scott recommended that a terminal program such as Backtalk or Proterm might be more useful than the XE Term that accompanies the XM-301. However XE Term does allow for the uploading and downloading of files. The BBS software that Scott has written was demoed in such that this is the software that the JACG BBS is functioning with. It was pointed out that an Atari magazine in England had selected The BBS as one of the ten most important Atari happenings in 1985. Well done Scott!!

In the "it pays to be there" department - the XM-301 demoed by Scott was donated by Gemini for our door prize. Thanks Gemini! The lucky winner was Doug Steinberg. If your membership number is 260, 160, 149 or 34 you should have been there. These were drawn first but you must claim the prize when your name is announced.

#### 1985 JACG TREASURE'S REPORT

BALANCE ON HAND 01/01/85

1985 INCOME: (Figures rounded to nearest dollar)

Membership Dues	\$9435.00
Newsletter Advertisements	2590.00
Back Issues/NL Sales	418.00
Disk Library Sales	2273.00
ST Disk Library Sales	186.00
Miscellaneous	381.00

TOTAL ----- \$15283.00

#### 1985 EXPENSES

Newsletter Printing	\$11244.00
Newsletter Mailing	2746.00
Stationery/Supplies	171.00
JACG Disk Library	1101.00
ST Library	210.00
Speakers/Meetings	70.00
Eqipt. Maintenance	205.00
Postage (For club Business)	43.00
Travel	57.00
Telephone	194.00
JACG Eqipt. Purchase	1460.00
Misc. Expenses	333.00

TOTAL ----- \$17834.00

TOTAL NET LOSS \$2551.00-

TOTAL BALANCE ON HAND 01/01/86

\$8262.00

\$5711.00

# SOFTWARE SPECTRUM

## SUPER SALE!

ACTUAL PRICES MAY BE LOWER WHEN YOU READ THIS

5205T.....	\$339.00
ATARI 5C1224 RGB MONITOR..	\$349.00
5F354 3-1/2 INCH DRIVE ..	\$169.00
WORD PROCESSOR FOR 5205T..	\$39.95
VIP PROFESSIONAL.....	\$139.95
130 XE.....	\$139.95
1050 DISK DRIVE.....	\$139.95
COMMODORE 1702 MONITOR...	\$199.95
INDUS GT DISK DRIVE.....	\$219.95
MAXELL MD-1D DISKS.....	\$13.95
MAXELL MD-2D DISKS.....	\$17.95
ATARI TOUCH TABLET.....	\$47.95
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ATARI XM301 MODEM.....	\$39.95
ATARI 1027 PRINTER.....	\$109.95

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#### SOFTWARE SPECTRUM

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WANTS



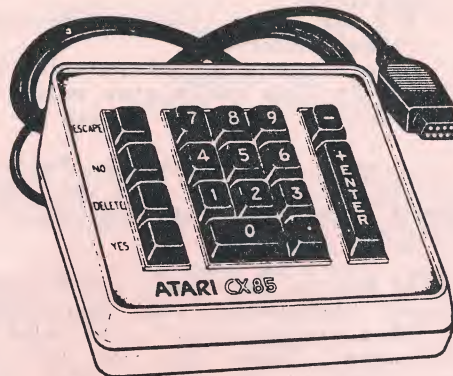
YOUR  
ARTICLE



# Programmable Keypad Handler This One Works

by Don Kramer - Blackhawk A.C.E. (Iowa)

This program will handle the Atari CX85 Keypad. Earlier versions of this program would not reset the attract mode timer to zero when a key was pressed on the keypad. This is now done every time a keypad key is pressed. Also, when the reprogramming of the keypad is complete the BASIC program is erased from memory. The handler, located on page six, remains in effect.



## ED. NOTES:

The key sequence for line 25 is <ESC> CTRL-CLEAR. Press the ESC key once, and while holding down the CTRL key press the CLEAR key. Simpler code is to just type GR.0 or ? CHR\$(125). They clear the screen.

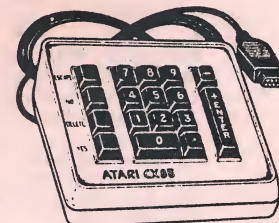
To use the program RUN it and you will see a column of the seventeen keys available on the keypad. A message on the bottom of the screen says PRESS KEYPAD. If you want the keypad to act in parallel with the keyboard press a key (say DELETE) on the keypad. The message changes to PRESS KEYBOARD. Now press the DELETE key on the keyboard. Continue the sequence, defining first the Keypad key and then the keyboard key it will produce. When you have pressed all the keypad keys and their matching keyboard keys press the START Key. The program is now erased and the handler is in effect.

Using the keypad to enter extensive data statements is a popular application. To do this it might be clever to define the NO key on the keypad to be a D and the YES key to be a comma. When using the keypad you could easily type in the line number followed by a NO key (D), followed by the period, followed by your numbers, separated by YES key presses (,). It should minimize the effort required to translate those laborious data lines into code. The working program will be available in the disk library, courtesy of Mr. Kramer.

```

10 REM PROGRAMABLE KEYPAD
20 REM COPYRIGHT 1985 JEFF BRENNER
21 REM REVISED NOV. 1985 by DON KRAMER
25 ? "}"
30 DIM DEF(16),PR(16),KEY$(10),SP$(10):OPEN #1,4,0,"K:"
40 SP$(1)=CHR$(32):SP$(10)=CHR$(32):SP$(2)=SP$
50 RESTORE 190:FOR I=0 TO 16
60 READ NUM:DEF(I)=NUM:PR(I)=-1:NEXT I
70 RESTORE :TOT=0:FOR I=1536 TO 1620:READ NUM
80 POKE I,NUM:TOT=TOT+I+NUM:NEXT I
90 IF TOT=143646 THEN A=USR(1536):GOTO 250
100 ? "ERROR-CHECK DATA":END
110 DATA 104,162,6,160,10,169,7,76
120 DATA 92,228,174,132,2,240,5,202
130 DATA 134,204,240,44
135 DATA 169,0,133,77,174,120,2,228
140 DATA 206,208,4,165,204,208,29,165
150 DATA 205,240,4,198,205,240,21,230
160 DATA 204,134,206,230,205,173,113,2
170 DATA 201,1,240,2,162,16,189,67
180 DATA 6,141,252,2,76,98,228
190 DATA 52,24,29,27,35,51,53,48
200 DATA 43
210 DATA 31,30,26,50,34,12,14,28
220 DATA 155
230 DATA DELETE,4,5,6,NO,7,8,9,YES
240 DATA 1,2,3,0,...,ENTER,-,ESCAPE
250 DATA ? CHR$(125),"KEYPAD";CHR$(127);"KEYBOARD":?
260 ? :FOR I=0 TO 16:READ KEY$:? KEY$;:? CHR$(127);
270 IF PR(I)>-1 THEN ? CHR$(PR(I));
280 PRINT :NEXT I
290 POKE 84,23:? "PRESS START WHEN FINISHED";
300 POKE 85,2:POKE 84,21:? CHR$(156);CHR$(157);"PRESS KEYPAD";
310 GOSUB 450
320 FOR I=0 TO 16:IF DEF(I)<>PEEK(764) THEN NEXT I:GOTO 300
330 RESTORE 230:FOR J=0 TO I:READ KEY$:NEXT J
340 POKE 85,2:POKE 84,I+2:FOR K=1 TO LEN(KEY$):CHR=ASC(KEY$(K,K))
350 ? CHR$(CHR+128);:NEXT K:POKE 84,21
360 POKE 85,2:? "PRESS KEYBOARD";
370 GOSUB 450:PR(I)=PEEK(764):POKE 84,I+2:POKE 85,15
380 IF PR(I)=39 THEN ? "INV";:GOTO 440
390 IF PR(I)=60 THEN ? "LOWR";:GOTO 440
400 IF PR(I)=124 THEN ? "CAPS";:GOTO 440
410 GET #1,N
420 IF N=155 THEN ? "RETURN";:GOTO 440
430 POKE 766,1:? CHR$(N);SP$;:POKE 766,0
440 POKE 85,2:? KEY$;:GOTO 300
450 POKE 764,255
460 IF PEEK(53279)=6 THEN 490
470 IF PEEK(764)=255 THEN 460
480 RETURN
490 FOR I=0 TO 16:IF PR(I)>-1 THEN POKE 1603+I,PR(I)
500 NEXT I
510 A=USR(1536):? :? :? :? "PROGRAMMING COMPLETED"
520 NEW

```





## SUMS OF SQUARES SERIES

by Kenneth J. Pietrucha - JACG

The sum of a consecutive series of numbers sometimes equals the sum of a continuation of the series. That is a mouth full, so let's look at an example of a first power series where:

$$\begin{aligned} 1 + 2 &= 3 \\ 4 + 5 + 6 &= 7 + 8 \\ 9 + 10 + 11 + 12 &= 13 + 14 + 15 \end{aligned}$$

The same thing happens to runs of squares. An example is the series  $36^2 + 37^2 + 38^2 + 39^2 + 40^2 = 41^2 + 42^2 + 43^2 + 44^2$ . Notice that the number of terms on the left is always one more than the number of terms on the right. This will become important if you want your computer to write out the equation.

To find out what the first starting number is on the left side of the equation, use the formula  $START = N(2N + 1)$  where  $N$  is the number of terms on the right side of the equation.

In our example above, we have four terms on the right. Using 4 in place of  $N$  we get  $4(8 + 1)$  or  $4 \times 9 = 36$ , which is our starting number. So the series becomes 36 squared plus the next four numbers squared which added together equals the next four numbers squared and added together.

To calculate the starting number of other runs of squares, just enter the number of terms you want on the right side of the equal sign and the simple program below will calculate the first number to be squared in the series in line 20. It will then go on to print the squares in the proper sequence on the screen and also sum the squares along the way.

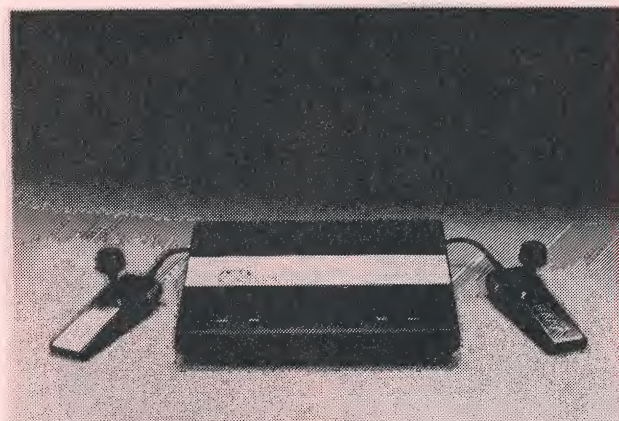
```

2 REM RUN'S OF SQUARES
3 REM MATHEMATICAL GAZETTE--DEC.1961
4 REM PP-334-335
5 REM TRANSLATED TO ATARI BASIC
6 REM BY KENNETH J. PIETRUCHA
7 REM DEC.10.1985
8 GRAPHICS 0
10 PRINT "ENTER # TERMS ON RIGHT"
";:INPUT N
20 START=N*(2*N+1)
22 PRINT :PRINT
30 TOTAL=START+N*N
40 FOR LOOP=START TO TOTAL
50 PRINT LOOP;"^2";
55 SQUARE=LOOP*LOOP
56 IF LOOP<=START+N THEN SUM=SUM+SQUARE
60 IF LOOP=START+N THEN PRINT " = "
";:GOTO 90
70 IF LOOP=TOTAL THEN GOTO 90
80 PRINT "+";
90 NEXT LOOP
100 PRINT :PRINT
105 PRINT "SUM OF EACH SIDE = ";SUM

```

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YOUR MEMBERSHIP?**

**CHECK YOUR MAILING LABEL  
FOR MEMBERSHIP EXPIRATION DATE**



### Video Games Still Hot

Atari has introduced a new, more powerful video game machine, the 7800. It is a high-end game with superior graphics, animation and sound effects. The 7800 comes packaged with the Pole Position II cartridge, a state-of-the-art driving game.



Atari's popular 2600 video game machine is now smaller and lighter, and features redesigned packaging that includes a carrying handle.

"Roll over BOY. SEE, LIKE THIS!"





## WORD MAGIC

Beats Atari Writer and Letter Perfect

By Phil & Andy Greenhut - JACG

Word Magic is a little known program recently out in Version 4 by Jim Thompson and his Blue Collar Software, whose motto is "It Works".

We challenge any JACG member to the test of trying this unique program and not deciding that it is truly superior to any other Atari Word Processor.

Word magic is a fully menu driven (in English) program with built in help files and built in detailed instructions in outline form so you can quickly find any point that you may be looking for.

When you boot the program you get a choice of three programs:

1. Word Magic
2. Graphic Magic
3. Spell Magic

Each of these programs can be run with one another.

If you pick Word Magic you will get a screen in large letters with ten choices. These are either chosen by using the arrows and RETURN or by picking the first highlighted letter of the six most used functions. If you pick the first letter you do not have to even hit RETURN, you will automatically go to the function. Let's say we pick "E" for Edit. You will automatically go to a blank screen to start your document. At the bottom of this blank screen, and other screens, is the following information:

1. File name, if any.
2. Insert or Overstrike indicator.
3. What key to hit to leave this function.
4. Number of bytes remaining.
5. Column # cursor is on.

How much can we write? Atari Writer Plus has 12,645 bytes. Little Known WORD MAGIC comes through with 25,000 bytes, or double that of Atari Writer+.

Once we start writing we have some Option commands and Select commands. We do not have to remember them because all we do is hit Option or Select and a menu comes up in the middle of our screen. Depending which one you choose it will tell you what to push to scroll or go to the end of the file or what to delete or move, etc. There are fifteen such selections in logical order on the two screens.

To help those looking to buy an excellent word processor we will list some of Word Magic's functions:

On-line help files  
Type ahead buffer  
Automatic print formatting  
Automatic whole word wrap  
Full screen cursor control  
Cursor to end of line or file  
Cursor to start of line or file  
Search with conditional char.

Move block of text to new file  
Copy block of text  
Delete block of text  
Search + replace  
Global search + replace  
Repeat last search  
Display of room available  
Tab stops  
Auto page headings + footers  
Auto page numbering  
Scrolling (3 speeds)  
Use joystick or Trackball  
Chain files together  
Insert files  
Five line spacing values  
Hanging indent for outlines  
Super + subscripts  
Print special characters  
All machine language  
On screen prompts  
Inserting of pictures from most programs  
Two ways to center text  
Changing of Margins  
Uses any control code

The very first time you use the program you will be led through a series of questions which will layout which printer you use and other functions such as scroll speed. Yes, scroll speed. You can set and choose a variety of scroll speeds and then use them with one key whenever you want to scroll.

After this initial set up you never have to bother again unless you want to change some default value.

"Ah!", you say, "then I can't change my printer values just before we print."

Wrong. Just before printing there is a very extensive menu on which you can make no changes or change anything you want. At this time you have such nice touches as being able to select: Whether you want to stop at the end of every page or print until the last page; Number of copies; Top, Bottom, Left and Right Margins all easily adjusted; Justification, and many more. If you want to stick to your original first time defaults just hit START, and away you go.

All character styles are fully supported and you can switch from one to another with ease on just about any printer.

Jim Thompson has made some super revisions to Version 4, not the least of which is once you put in your data disk you never have to go back to the program disk. The data disk does it all.

One benefit that I thought I would not like was that you must save to the data disk before printing. This has saved me from numerous wipe outs.

In the one year I have been using this program I have never had a crash.

The very rare error messages come out in English and not numbers.



One last feature which I have not personally tried is that any Atari graphics 8, B-Graph, Micropainter or Micro-Illustrator(Koala pad, Atari Touch Tablet) picture can be inserted in a page. Also, text can be added to a picture before printing. The only disadvantage is that you must have an Epson or compatible printer such as a Gemini or Prowriter printer to use this function.

The only other disadvantage that I could find only applies to non-Epson or compatible printer owners and that is when you want to use a font you must type in the codes after the control-V function.

This program also comes in a 130XE version and is even more integrated with its sister programs and with even more available memory.

I challenge any beginner to advanced Atari user to try this menu driven program and not put his or her other word processors in Moth Balls.

A nice touch is that you can contact Jim Thompson directly at:  
Blue Collar Software  
5349 Hansell Dr.  
San Jose, Ca. 95123  
or you can contact Antic Magazine. It is also available locally at some JACG advertisers.

The list price for the 800 and 800XL is only \$19.95 for Word Magic and Graphic Magic combined a bargain even for today and for the 130XE version which includes all three programs and retails for \$29.95.



" I TOLD MARTHA I  
WANTED A COMPUTER  
FOR MY BIRTHDAY.  
WHAT I GOT WAS A SET  
OF WOODEN TEETH.  
NOW THAT'S A WOMAN  
FOR YOU!"



**EASTER EGG**

**Cheating Summer Games**

On the pole vault it's nearly impossible to jump the 6.20 height. Why not go under it? Go through the normal vault procedure but put in a low pole grip. If you time it right you will cruise under the cross pole and it will count as a successful jump!

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## Getting To Know The ST

by James T. Budelman - JACG

In some fit of madness, I offered to write a regular column on the ST. The time has come to fess up- I do not have the slightest idea what you all would like to hear about. At the risk of being a complete bore, I plan to write about whatever attracts my interest. This first column will just record my impressions and tell you about LOGO's fill patterns.

My primary interest in computers is human interfaces and graphics. The ST gave me plenty in those areas to digest which was new and interesting (not new to my industry, but certainly to my house and personal experience). The color ST gave me excellent resolution and color, nearly as much resolution as my Burroughs B26, and the same number of colors. The hardware was trivial to put together. It came up and ran immediately.

In the Atari tradition, each unit comes with a separate power supply (sigh), so the spaghetti of wires continues and expands. As you read on, you will see that I have a mixed set of feelings about this fine computer. The graphics are splendid, but the sound ---ah, the sound just isn't there yet. At least, nothing MIDI seems to be happening in software land. I suppose real soon now!!!! Nowhere can I find how to make LOGO make sounds or play music. Perhaps when BASIC gets here?

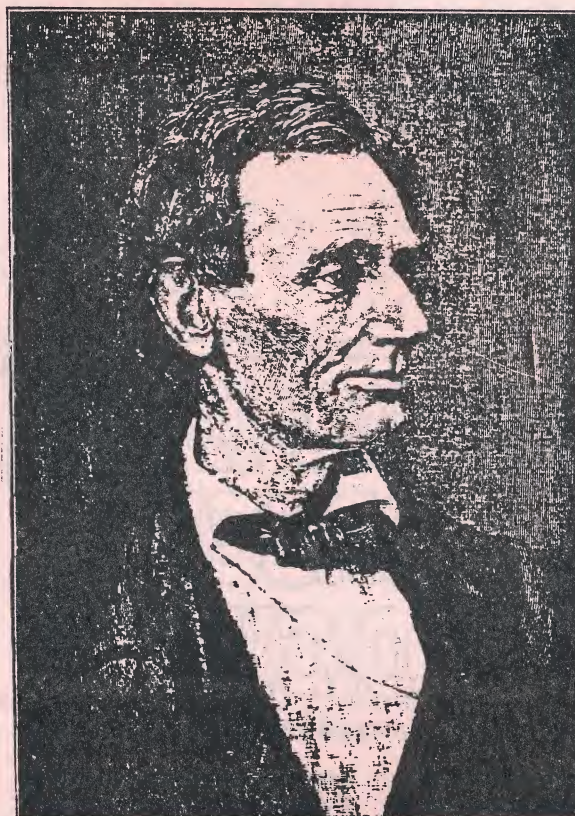
Having gotten myself running, I settled down to consume the documentation. What documentation? What documentation indeed! There is almost none. A slick little book that explains how to use the desktop and some photocopy documentation on the GEM specific Logo commands. The only thing I had was Logo! And that without a manual. So, I tried to play around with turtle graphics using ST Logo. I had some passing familiarity with Logo concepts, but had never actually seen the language. I was able to get the turtle to trace out a square and ventured on to something more exotic - a filled square.

When researching (I use the term loosely given the nonexistence of documentation, it was more like experimentation than research) the fill command, I noticed that there was an option to create a user defined fill pattern. I immediately seized upon this as an intellectual challenge - how does one design one's own fill pattern? Perhaps, if I find out for Logo, I will have found out for GEM Also.

The Fill command required me to enter 16 numbers. I reasoned that the numbers probably represented a bit pattern much as a font might have. If the world were rational, the bits in the number would correspond to the physical location of a lit pixel in a 16 by 16 pixel array (other computers, for reasons best understood by

their arcane designers, require the bits to be shifted and rotated when they are mapped onto the display). Thank Tramiel and Digital, the ATARI is rational in this regard and I quickly ironed out the scheme. Unfortunately, I do not understand Logo enough to use it to calculate the proper numbers for patterns I wanted to make. I proceeded to break out the trusty 800 and used a spreadsheet to do the calculations for me. When I get my BASIC, I will work on a fill pattern designer program for some future column. Try entering the following set of numbers into your fill pattern routine to see a familiar sight.  
0,0,0,1440,1440,1440,1440,1440,1440,2448,6552,29070,29070,24966,0

I promptly ran out and bought the ST Logo book. There is precious little you can do without such a book. The book is titled "USING ST LOGO ON THE ATARI" by Martin Sims. It is published by GLENTOP Computer Books and it is quite good as far as it goes. You'll hear more about LOGO in later columns.



" ALL I GOT FOR MY  
BIRTHDAY WAS A  
GOOSE QUILL PEN.  
WHAT I REALLY  
WANTED WAS A  
WORD PROCESSOR!"



## Chris Crawford Revisited

By Donald Forbes - JACG

Our own Chris Crawford, prince of the game designers (Legionnaire, Eastern Front, Excalibur), has just completed Balance of Power, a new computer game pitting the U.S. against Russia which is as much about peace as it is about nuclear war.

David Aaron, deputy assistant to the President for National Security Affairs (1977-1981), interviewed Chris for a five-page article in the New York Times Sunday magazine (29 Dec 85) entitled 'Playing with Apocalypse.' Here are some high spots:

The day started like most days at the National Security Council. In the next move I blew up the world. A dozen tries later I was still destroying the earth.

Since Balance of Power was introduced in November, more than 10,000 copies, at \$50 apiece, have been sold. The publisher expects sales to reach \$1.2 million. One reviewer said it 'may well be the best new computer simulation of 1985.' Using the power of the Macintosh computer, the game pits the U.S. against the Soviet Union in a struggle for world prestige.

My self-destruction stemmed from an unwillingness to back down. What could some techno-yuppie know of the true subtleties of foreign relations? I decided to visit Chris Crawford. I compiled a list of complaints.

I raised the issue of verisimilitude as we talked in his ramshackle house, set on a high lonely ridge overlooking California's Silicon Valley. Youthful and elfin at age 36, with a large forehead emerging from wisps of receding brown hair, Crawford fit my vision of the Master of Rivendell in 'Lord of the Rings.' I was relieved to find that his only animals were two ponies, two burros, three sheep, a duck and a pride of house cats.

"Some people wonder if games have educational value," he said, as we ate a lunch of pork fried rice and Tab. Crawford, who taught college physics in Nebraska after receiving a master's degree from the University of Missouri, added: "The neat thing about a game is that nobody gets hurt." Crawford believes computers offer "a new way of thinking about the truth. The computer can help us do that."

Computer games, with total sales last year of \$500 million, divide into four overlapping classes. Action games, such as Lode Runner (the all-time best seller, with more than a million units sold), stress eye-hand coordination. Adventure games combine pictures with a story. Simulations come in two types. Mechanical simulations started in 1979 with Flight Simulator. Less common are strategic simulations. Balance of Power uses artificial intelligence to determine what moves Russia will make.

One wall of Crawford's study was lined with books on games, politics and military strategy. A long desk held Macintosh and Lisa computers. Above them, more than a half dozen covers of Crawford's earlier games were displayed.

"It's generally recognized that I'm not the biggest selling game designer," he said apologetically. Most of his games sold only 5,000 to 10,000 copies. His best seller, Eastern Front (1941), has sold 60,000 copies.

One reviewer wrote: "In an industry of electro-capitalists, he is one of the artists." But he is grateful for an assignment to do yet another military game, for which he will be paid an advance a bit higher than the average \$30,000.

Crawford's games started as a hobby. But when his wife, Kathy, an electrical engineer, had to move from Davis, Calif., to San Jose, he wound up at Atari. After Atari reduced its staff, he went out on his own in 1984. He devoted four years to mastering Atari's home computers. "By the time I understood them perfectly, they were passe."

Considered "the grand old theoretician of the field," Crawford says there are only a handful of great game designers and they are all Americans. Crawford says his motivation for designing Balance of Power was political as well as artistic -- "a grand, idealistic, make my contribution for peace crusade." He worked for eight months before he got a contract with Random House. The contract was dropped and eventually picked up by Mindscape, a Chicago company. Several times during the 15 months it took to design the game, he and his wife came close to missing mortgage payments.

The world in Crawford's game is implacably competitive, but the superpowers must be very cautious to avoid nuclear Armageddon. Crawford's greatest frustration was having to simplify the game. Originally, in addition to prestige, Balance of Power had three other scores: human rights, material well-being and total deaths.

We were sitting in twin bentwood rockers in Crawford's family room, gazing out at the light coming on in the afternoon gloom that hung over San Jose. Crawford mused: "Computer games are unlike any other entertainment or art. They're interactive. The audience must make the decisions. As artists, we're very primitive. How do you get from Gregorian chants to Mozart?"

Driving down the mountain I decided Balance of Power is about as close as one might get to the cut-and-thrust of international politics without going through confirmation by the Senate.

The recent summit meeting was considered a success on each side because neither made any concessions. Both leaders enhanced their prestige. But it is still the same old game, and we need a new vision before it, too, ends as Crawford's Balance of Power so often does. The screen goes black, then flashes:

YOU HAVE IGNITED A NUCLEAR WAR  
AND NO, THERE IS NO ANIMATED  
DISPLAY OF A MUSHROOM CLOUD  
WITH PARTS OF BODIES  
FLYING THROUGH THE AIR.  
WE DO NOT REWARD FAILURE.

**GIVE A BIT!!!**

**Contribute to the Newsletter this month.**



## X M - 3 0 What?

by Mark Knutsen - JACG

No, that's XM-301, the product number of Atari's new modem. I suppose that the "M" means "Modem" and the "301" means 300 baud, but anyone not familiar with Atari's method of naming products (quick, what's an SM-124?) may think it's a new sports car. If this new modem is to be compared with an automobile, I would label it an economy model with an excellent price/performance ratio. Allow me to explain:

Currently, the XM-301 can be had for about \$40. Opening the handsome red-and-white box reveals a 50 page instruction manual, the XE-Term program disk (unprotected, so you can make a backup), and the modem itself, a diminutive unit approximately 5.5 by 3 by 1.5 inches. The XM-301 attaches to the daisy chain of peripherals, and must be the last peripheral in the chain as it has no serial output port. A small carrier indicator LED on the modem lights when a computer is on the line. Be aware that you must provide the modular telephone cable needed to connect the modem to your phone line.

Also included with the modem (at least for now) are special offers from five information services: Compuserve, the Source, Dow Jones, Knowledge-Index, and the Official Airline Guide. If you should decide to subscribe to any of these services, the money you save through these offers may very well pay for the cost of the modem.

The instruction manual is very clear and thorough. It explains how to hook up your new modem and how to use the XE-Term terminal program, and it contains several Appendices, including a glossary of telecommunications terms.

XE-Term makes telecommunications easy for the first-time user. All the functions of the program are accessed through menus in a manner that reminds me of the MacIntosh "windowing" system. XE-Term can use the modem to dial the phone rotary-style, or can use your Atari's POKEY chip to produce touch-tone signals. Either way, the telephone sound is routed through the TV speaker so that you can hear exactly what's going on. If XE-Term doesn't receive a carrier tone within 30 seconds, it automatically hangs up the phone. The modem can also answer the phone automatically. XE-Term will store up to five frequently used phone numbers for you.

For transferring programs and text over the phone, XE-Term implements the popular XMODEM data transfer standard. On a 48K Atari, it uses a 14K text buffer for capturing messages, bulletins, BBS numbers, etc. XE-Term will send and receive ASCII or ATASCII data.

File functions can be carried out while using XE-Term, eliminating the need to go to DOS to view disk directories, or to lock, unlock, rename, or delete disk files.

Finally, for the technically proficient or the just plain curious, the modem handler and 236-sector documentation file are included on the XE-Term disk. Copying the latter file to your printer produces the equivalent of 20 double-spaced pages of technical information on the modem and the "T:" device handler.

Overall, the XE-Term program implements the functions of the XM-301 in a straightforward manner. After working with it for a while, however, I find myself wanting some extra features found on more sophisticated terminal programs. XE-Term does not provide a timer or clock, which would come in handy for keeping track of long-distance charges. The five-number "Phone Book" is much too small; storage space for at least 20 numbers would be more like it. Finally, there is no feature to repeatedly redial a busy BBS number until a carrier is received, which would come in very handy when calling the JACG BBS amongst others. (I wanted this feature so much that I wrote the program to do it myself, which is a tribute to the excellent technical documentation mentioned above.) Fortunately, commercial terminal programs have already appeared that are compatible with the XM-301 and that implement these and other features. After buying the XM-301, you'll have plenty of money left to splurge on a terminal program with all the frills.

In summary, I can say that Atari has truly delivered on its promise of "Power Without the Price." Now every Atari owner can join the world of telecommunications. See you on the boards!

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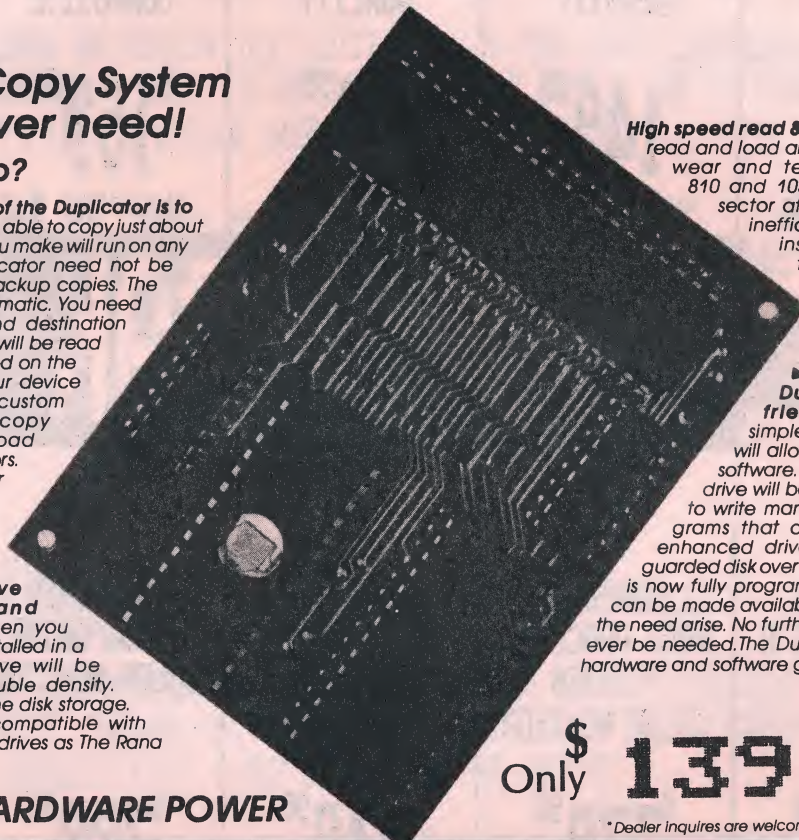
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## VOICE RECOGNITION FOR THE ATARI

By Bob Lopes - JACG

If you are the type of person who loves hooking up peripherals to your Atari then you are really going to enjoy the latest hardware from Covox Inc. For \$89.00 this company has produced a voice digitizer/recognizer/music writer (yes, all this and more) called "the Voicemaster." I was infinitely intrigued by Covox's claims so I ordered one from ANTIC magazine back in October. I literally forgot about it until the day before Christmas when UPS delivered it (I guess there really is a Santa Claus). It was well worth the wait.

The unit comes with a headset type microphone, an interface box, and the necessary software and manuals complete with some very impressive demos. The headset plugs into the interface box which, in turn, plugs into joystick port #2. You simply run the autorun disk with BASIC installed and it will boot up with the main menu. From this you can immediately test any of Voicemasters' functions.

A suggested start is to select the bargraph demo in order to adjust the gain of the interface box to your voice level. As you speak, you will see a frequency spectrum of each word displayed as a series of vertical bars. This is a picture of your voice being scanned at the intermediate rate of 7.813 KHZ. These pictures or "templates" can be stored in RAM for later use with the LEARN, TRAIN, RECOG or SPEAK commands from BASIC.

This is probably a good point to mention that the Voicemaster software contains a master program which provides a "wedge" of 18 new commands into standard Atari BASIC. This means that you can add digitized voice playback and/or voice recognition to any of your BASIC programs.

Referring back to the main menu, my favorite demo program is the voice calculator. After it loads, you are asked to speak a series of words three times. This is done to obtain the average of your voice pattern in order to provide a better match with the word recognizer. This technique is known as "dynamic time warping." Once trained, the program sits idle with a cursor waiting for verbal input. As you speak digits one at a time, they mysteriously appear in their appropriate spots on the screen. You can add, subtract, multiply, divide, even use decimals. When finished, you say the word "equals" and the program repeats the digits in your own digitized voice and gives the correct answer. It is totally amazing to sit there and talk to your Atari and have it talk back!

There are a couple of other fun demos such as the talking clock and blackjack programs and there is even the Loadplay program. This allows you to add previously stored speech to any of your BASIC programs without having the voicemaster hardware connected. By the way, the speech quality

produced from your digitized voice does vary depending on the sampling rate selected. There are three sampling rates available with 3.906 KHZ being the slowest and 15.630 KHZ the highest. The slowest rate uses less RAM but is hard to distinguish on playback. The fastest rate gives the best quality but you must blank the screen so the ANTIC chip doesn't steal any cycles from the processor while it is dedicated to your voice.

The word recognition capabilities of the voicemaster are truly impressive, and I have already written several of my own programs incorporating speech recognition. If you are musically inclined, there is another super feature. From the main menu you can go to a music menu by selecting the Composer option. This gives you several choices such as music play, record, edit, add notes, etc. In the record mode, the program displays a music staff at the top of your screen and a list of control functions at the bottom. If you hum or whistle into the microphone, you will see notes generated and placed in their correct positions on the staff. As this graphically creates musical notes, it also lists the note alphabetically near the bottom left corner of your screen. From the control menu you can select fast or slow tempos, immediate playback of the note, shift octaves, filter your input signal or see what voice this note is being played in. All this, incredibly enough in real time. Once stored, the music can be played back, edited or printed. Covox has definitely outdone themselves with this combination of hardware and software support. The documentation for all this is well written and goes into great depth explaining all the options and features in two manuals. It even includes a sheet of last minute changes and improvements which never made it to the manual for print. Technical notes are also provided for the software revealing ways to experiment with your voicemaster for other applications.

Altogether, I would rate this as a highly worthwhile investment for your Atari if you want to learn more about voice recognition. It clearly demonstrates the Atari's power as more than a game machine (we all knew that, of course), and even if you don't care about speech processing, it is a hell of a lot of fun!



# Clever Idea?

Put It In  
Writing  
For The  
Newsletter.



## NOISE from NOYES

by Dave Noyes - JACG

**\*\*AMODEM 7.1 & the MPP 1000E Modem\*\***

Attention all MPP 1000E owners. Tired of flawed downloads from SIG\*ATARI and DELPHI? Tired of the inability of SMART TERM 6.1 to cope? Tired of the limitations of MSCOPE (unable to D/L files with an .XMO extender)? Tired of the disk-swapping and time involved in making your D/L into a usable file with TOPLESS and similar programs? Toss them all and move up to the Public Domain AMODEM 7.1 and its associated MPP handler. Not only is the Christiansen X-Modem protocol adhered to (with allowances for variations on some BBS's) but also available to the user is a full range of features which make this terminal program a must for all MPP 1000E owners. (Although this article has been written with the 1000E in mind, AMODEM 7.1 [with the appropriate handler] will support most popular modems [and all ATARI 8-bit computers]).

Salient features include:

- \*Control of screen color, text intensity, and border.
- \*Two clocks (actual and connect time).
- \*Ability to read directories of Drives 1-8.
- \*Auto-dialing (w/.NUM files created by AUTOGEN or similar program).
- \*Macros of up to 80 characters (w/one keystroke I am able to go through a complete COMPUSERVE log-on)!
- \*Capture to screen, buffer or disk (file goes to disk automatically when buffer fills).
- \*Upload and download with or without X-modem.
- \*No translator disk necessary to run on XL's or XE's.
- \*Two full screens of controls and options (excluding the auto-dial screen)!
- \*DOS functions (rename, format, erase, copy, lock, unlock, directory).
- \*Smooth scrolling.
- \*Screen print.
- \*Buffer dump.
- \*Baud rate and translation (ASCII/ATASCII) toggles.

**\*\*\*AND MUCH, MUCH, MORE!\*\*\***

**\*\*\*And for 130XE owners\*\*\***

When used with DOS 2.5 and RAMDISK.COM, Drive 8 becomes instantaneous storage (downloading to Drive 8 is as fast as to buffer--no time is lost in write/verify)! And, since AMODEM 7.1 can read the directory of Drive 8, one does not have to worry about forgetting filenames when downloading multiple files.

In summary, AMODEM 7.1 has eliminated the high levels of frustration and aggravation that had always been present during my first six months of MPP 1000E ownership. The program is well documented, and if not already in the JACG library, I will see that it, plus the MPP handler,

AUTOGEN, and COMPLETE documentation are made available to the librarian. Kudos to Trent Dudley who put AMODEM 7.1 in the Public Domain, and the ANALOG TCS which made it available!

**\*\*\*Next in NOISE from NOYES:  
The Defective Software Blues  
or  
Does it really run?**



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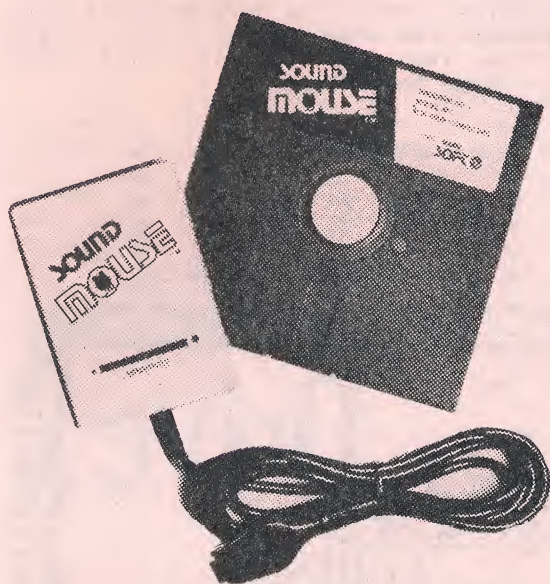


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Introducing SOUNDMOUSE,<sup>TM</sup> a simple yet versatile peripheral that enables your Atari<sup>®</sup> computer to be controlled by sound. The accompanying program disk shows how the SOUNDMOUSE can be used to control games, and also as a "color organ," an application that synchronizes the movement of a wide variety of computer graphics displays to the beat of music.

Used as a game controller, the SOUNDMOUSE permits game activities to be controlled by voice commands or other sounds.

Fully programmable by the user, the SOUNDMOUSE connects to the computer's joystick port and has a control for varying its sensitivity. It can be used with all Atari 8-bit computers having 48K of memory and a disk drive.



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- For ATARI<sup>®</sup> 8-bit computers with 48K and disk drive.

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For a limited time only, the SOUNDMOUSE is being offered to JACG and other Atari user group members at \$29.95, or 25% off the regular retail price of \$39.95. Send check or money order, including \$2 for shipping and handling, to SOUNDSOFT, Inc., Box 740, 10 Maple Ave., Andover, N.J. 07821. New Jersey residents add 6% sales tax. Offer expires Feb. 15, 1986.

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by Joseph S. Kennedy

A word to the wise - go out and get your Valentine a present. Do it now. Do it before you run any of the programs we discuss this month in this column or in the regular meeting. The topic is Finances and who knows what, if anything, you'll feel like buying after you figure out your financial state. (Did I hear someone say the state of confusion?)

Finances are one thing a computer can help you with and the JACG Program Library can make the bite even easier with the many public domain programs available. There are so many programs related to finance in the library that I will not be able to discuss them all in detail. So I'll just list all the programs by the volume that they are in and give a brief idea of their use.

#### Volume 016 - Home/Business 001

- **HOMELOAN** - If you're looking for a 30 year mortgage with 8 - 30% interest rates this will give you the monthly, annual and total payments.

- **BUSINESS** - This is the granddaddy of our financial programs. Not only will this help you decide if and/or how to purchase a home but, after you do buy one it will help you figure out the square footage of the house; calculate your paycheck; print out an amortization table on your mortgage; figure the expenses on your rental properties; find the interest on your investment and after it balances your checkbook (this is a computer program after all) it'll even produce a bar graph if you feed it the monthly data. It also has hex/decimal and US/Metric conversion routines. (All this and eight more programs on the same disk.)

- **CHECKING** - What's a computer without a program to balance your checkbook? Use this and you can blame the problem on a computer error just like the Big Boys.

#### Volume 031 - Home Management

- **MONEY** - This program computes the value of an investment, value of savings, annuity and pension income, amount overdue on loans, interest growth, and devaluation by inflation.

#### Volume 034 - Home/Business 002

- **HOMEFIN** - This program will help you set-up a budget to track where your money is going.

- **DATALOAN** - This program will compute the payment, interest and balance for loans.

#### Volume 043 - Home/Business 003

- **CHECK** - You guessed it; another check balancing program.

- **CALC** - A basic matrix calculator; not Syncalc, but less expensive and it's in BASIC so you can modify it if you like.

This will perform functions on the rows or columns according to your input.

#### Volume 070 - ANALOG 28

- **MORTGAGE.BAS** - This program compares mortgages, including points to help in a financial decision. You can print to screen or printer. There is a slight discrepancy between the total payout at the end of the program but this is insignificant in figuring the better of two or more mortgage offerings.

#### Volume 072 - ANALOG 30

- **LOANSHRK.BAS** - This program allows you to review several combinations of loan parameters on the screen at once and also dump them to the printer. However if you have a 130XE like me you have to make some changes to the program. These changes are documented in Issue #35 of ANALOG, page #4. Even with these changes you still get bad values if you let the program figure the balloon payment for your mortgage.

Now that you've had a chance to figure out your financial situation go play some of the better public domain games in the disk library. You'll be able to relax even more because you know the price will fall right into your new budget. 'Til next month - Happy Computing.

```
*****
*           J           *
*GIVE A BIT!!*
*           C           *
*           G           *
*****
```





## Why Binary?

by W.H. Schneider - JACG

In 1947 John von Neumann, the Princeton mathematician who devised the basic architecture of the modern computer, proposed a (then) revolutionary notion that the machine also be able to store a series of instructions. He dubbed those instructions the program. Ever since, computer memories have been used to store both programs and data.

The CPU (Central Processing Unit) gathers these instructions from the computer's memory, executes them, and stores the resulting information back in memory. This microprocessor controls or coordinates virtually everything that goes on in the computer. It performs the basic arithmetic and logic functions and supervises the operation of the entire system.

The microprocessor is little more than a fingernail-sized wafer of silicon containing an intricate grid of almost microscopic transistorized circuits. Microprocessors presently under development pack the power of a large mainframe computer onto a tiny chip of silicon. The surface of the new Motorola 68020 has the equivalent of 200,000 transistors.

The information a microprocessor processes is in the form of electrical signals. Electricity is simply billions of electrons in motion. The phenomenon that streams of speeding electrons can start or stop the flow of other streams of electrons creates the switching action in transistors. The silicon chip which represents the CPU is nothing more than an immense set of ON and OFF switches.

A switch is the perfect means for conveying binary information. Each switch has two positions, UP for ON (1) and DOWN for OFF (0), which corresponds to the binary number system. The CPU receives information instructions encoded in switch-like neutrons. It interprets them and translates them into machine language—a set of codes and numeric values, expressed in binary numbers. A binary code (of ones and zeros) is the perfect match for the on or off states of electricity.

This binary information is stored in a RAM chip, an array of microelectric "cells", each cell storing one bit. A bit is one binary (on or off) condition. This binary information is transferred into and out of primary memory in the form of bytes. A byte generally consists of 8 bits of information. Microprocessors fetch, execute, and store data within CPU pathways called buses. There are at least three basic kinds of buses in most microprocessors: a data bus, an address bus, and a control bus. The width of these buses determine whether a microprocessor is considered an eight-bit, 16-bit, or hybrid chip. The "width" of the computer's data path is governed by its word size. An increased word size (the number of bits used at one time) results in fewer machine cycles

and the ability to access a larger volume of memory. In theory, an 8-bit machine can address 64,000 characters (64K bytes) in memory, a 16-bit has the ability to address 1 million bytes and a 32-bit, 4 billion bytes.

Every character (letter, numeral, symbol or punctuation mark) is composed of a group of eight bits called a byte. The way the bits are arranged within each byte, the order in which the 1's and 0's appear, determines which character a byte represents.

The ASCII (American Standard Code for Information Interchange) standard assigns a different number to each letter of the alphabet (with separate numbers for uppercase and lowercase), to each digit, each common punctuation mark, and several special symbols. The letter A corresponds to the decimal number 65 which is equivalent to the binary number 0100 0001. A number like this is long and unwieldy for human use, but is perfectly suited to a computer. Actually it is the only kind of number that a computer can deal with.

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# Wall St. Millionaire With A Spreadsheet

By Donald Forbes CFA - JACG

How did the Dow close? The right answer to this cocktail-party question is your passport to the Wall Street club. Without it you are nothing but a nothing.

The Dow is a hot topic today as the Stock Market hits new record highs. Even the shoe-shine boys are paying attention.

What is the Dow? Just a short name for the average price of 30 industrial stocks distributed daily and even hourly by the Wall Street Journal published by Dow-Jones and Co. The average goes back a century and was designed to be a barometer of the New York stock market--add up the price of thirty leading industrial stocks and divide by 30. The list of stocks has changed over the years as industry leaders merged or failed. U.S. Steel and Woolworth are old-timers. IBM was in and then out and then in again. Ray Krock, that advocate of persistence, died before he got to see his McDonald's hamburger chain added to the Blue Chip list.

Today the Dow is a microcosm of the macrocosm represented by the world economy; the activities of its companies now cover the globe.

You can compute the Dow yourself easily enough. Add up the price of the 30 stocks. However, you cannot divide by 30. Every time the stocks changed, the divisor was changed to preserve the continuity of the index. Now the divisor is 1.090. You can find it in small type at the bottom of the next-to-last inside page of the Wall Street Journal. The list of stocks is also in the Monday paper in small type on one of the back pages.

Knowing the Dow today will not make you rich. What you need to know is what the Dow will be tomorrow or next month or next year. If you can tell for each of the stocks what their earnings will be, and at what rate they will be capitalized, then you have the answer. This is the true test of your skill.

What are the earnings? Here is where I use my SYNCALC spreadsheet (\$21 at the JACG flea market). First I took one of the daily newspapers and listed all the names of all the 30 stocks in the first column, then in the next column the closing prices to the nearest dollar, and then in the third column the P-E or P/E or price/earnings ratio or multiplier.

The P/E is the number (typically between say 10 or 15) that is computed by dividing the latest stock price by the dollar earnings for the past twelve months (usually the last four reported quarters; a number that is not printed in the listing but is stored in the data base from which the stock quote listing is printed).

What is the meaning of the P/E? This is the implied value that stock purchasers assign to the earnings of the company. There are three ways to value any property. Take your house as an example: (1) for how much can you sell it? (2) how much would it cost to build one like it? (3) if you could rent it out for \$10,000 a year, would a buyer pay a price equal to the annual rental for five years, or ten years, or fifteen years?

Investors value stocks the same way. If Bethlehem Steel had no earnings in the past

twelve months, will it have earnings next year or can the stockholders recover their investment by selling off the parts? By rule of thumb, any going business should be worth seven to ten times its yearly earnings. The reciprocal of the P/E is also a rough measure of yield: a stock selling at 20 times earnings can be considered as yielding 5 per cent.

First we set up the spreadsheet with the prices in column B and the P/E in column D. In column C we calculate the approximate earnings by dividing the price by the P/E (we insert zeros if there are no earnings and no P/E ratio). Next we add up the prices and then divide by the magic ratio (1.090 in this case). We can also add the earnings and divide by the same ratio. This will give us an approximation to the earnings on the Dow as a whole, and an approximate Dow multiplier. Finally, we sort the multipliers in ascending order and print the spreadsheet.

	PRICE	EARN	PE
1 BETHLEHEM STEEL	16	0.00	0
2 INCO	12	0.00	0
3 INTER PAPER	48	0.00	0
4 UNION CARBIDE	64	0.00	0
5 GENERAL MOTORS	70	11.67	6
6 GOODYEAR	29	4.14	7
7 CHEVRON	38	4.22	9
8 EXXON	53	5.89	9
9 PHILIP MORRIS	80	8.89	9
10 ALLIED-SIGNAL	46	4.60	10
11 INTER HARVESTER	7	0.70	10
12 SEARS ROEBUCK	37	3.70	10
13 OWENS-ILLINOIS	54	4.91	11
14 UNITED TECHNO	42	3.82	11
15 WOOLWORTH	58	5.27	11
16 AMER CAN	64	4.92	13
17 GENERAL ELECTRIC	66	5.08	13
18 IBM	140	10.00	14
19 MINNESOTA M&M	84	6.00	14
20 WESTINGHOUSE EL	46	3.29	14
21 DOW SUM	1607	117.85	14
22 DOW AVERAGE	1474	108.12	14
23 AMER EXPRESS	49	3.06	16
24 EASTMAN KODAK	50	3.13	16
25 MCDONALDS	75	4.69	16
26 AMER T&T	24	1.41	17
27 DU PONT	63	3.71	17
28 PROCTER & GAMB	67	3.94	17
29 MERCK	130	7.22	18
30 TEXACO	33	1.50	22
31 US STEEL	26	1.04	25
32 ALUMINUM CO	36	1.06	34

If you can predict the earnings and the multiplier twelve months ahead then you have it made.

The disparities in the multipliers give you the first clue to the workings of the Wall Street mind. You may be able to make educated guesses as to future earnings. But you must also be able to judge the rate at which these earnings will be capitalized. Remember also that the multipliers you computed are based on past earnings, whereas investors are now buying on the basis of their projected earnings. The nature of the industry will give a first clue: high technology usually commands a higher multiplier. (Most multipliers discount earnings in the future; sometimes they appear to discount the Hereafter.) Industry cycles may provide a clue to multipliers: the oil industry may be up one year and down the next.



Now that you understand the problem, where do you go from here? You obviously need more information. My local library (in Madison NJ) is a gold mine. The best place to start, however, is to send \$4 to the Publications division of the New York Stock Exchange at the corner of Broad and Wall (New York, NY 10005) for their investors information kit. You get four booklets written by experts on the essentials you need to know before you invest your hard-earned dollars.

A 32-page glossary defines common terms used by securities, options and futures traders.

An 11-page booklet on Understanding Stocks and Bonds 'explains the investment characteristics of different securities, each offering varying potential for reward, risk, profit and income.'

The third 28-page booklet is an indispensable guide for any investor: Understanding Financial Statements. (Every security analyst looking for skeletons starts with the Notes to Financial Statements in small print at the back of the annual reports.) The booklet contains '7 Keys to Value' which are worth the price of the kit: (1) operating profit margin; (2) working capital ratio; (3) liquidity ratio; (4) capitalization ratios; (5) sales to plant & property; (6) inventory turnover; (7) return on equity. You don't have to be an accountant--you just need to know where to look.

The final 18-page booklet on Getting Help When You Invest covers: Are you ready to invest? Setting investment goals; Choosing your broker; Opening an account; Deciding to buy and sell; Getting financial reports; Working with your broker; Settling differences. Before investing a nickel, try trading for six months on paper (using your spreadsheet) with an imaginary \$10,000 investment. Remember to count brokerage commissions; being right only half the time will drive you to the poorhouse (one famous Wall Street bestseller was entitled 'Where are the Customers' Yachts?').

Now that you are ready to take the plunge you will need to find a broker. You can start by investing a few dollars in a few stocks. Your broker can help you, but if you let him make all the decisions you will never learn enough to beat the game. If you memorize the ticker symbols of a few stocks, you may be able to watch the delayed quotes on your cable TV. Your bank may be able to provide you with trading facilities via your home computer. There are many programs for personal computers that handle security selection and portfolio management.

When you have learned the ropes you may decide to play both sides of the market. Stock prices go up and down. Speculators who see a company facing bankruptcy will borrow the stock, sell it, and then later replace the borrowed stock with new shares bought at a lower price. Their profit is the difference between the selling and buying price. But remember:

He who sells  
What isn't his'n,  
Must buy it back  
Or go to pris'n.

If you ever make your pile, and find that your investments are keeping you awake at night, remember that famous piece of Wall Street investment advice: 'Sell to the sleeping point.'

A final word. Before heading for that cocktail party, call your broker: 'How did the Dow close?'

## JACG Membership

The Jersey Atari Computer Group (JACG) invites you to become a member. Dues are \$20.00 per year and entitle the member to: 1) Receive the monthly newsletter; 2) Purchase programs from the group's extensive tape and disk libraries at special rates; 3) Join special interest groups or form new ones; 4) Benefit from the expertise and experience of other Atari computer users; 5) Participate in group purchases of software at substantially reduced prices; 6) Receive a membership card that entitles the member to discounts at local computer stores; 7) Attend monthly meetings to learn about the latest hardware and software, rumors, and techniques for getting the most out of your Atari computer; 8) Submit articles and programs to the newsletter and give demos and presentations at the monthly meetings; 9) Participate in sale/swap activities with other members; 10) Access the JACG nationally famous Bulletin Board; and 11) Have a lot of fun.

If all of this sounds good to you send a check or money order, payable to JACG, to:

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Remember, receiving the JACG Newsletter is just one of the many benefits of being a member of JACG.

## Membership Renewal

Take a moment and look at your mailing label on a recent issue of the JACG newsletter. Check the bottom right hand corner following "Last Issue:". This is the month/year when your membership expires. Try to renew at least one month early. This helps us keep our book keeping in order and avoids your missing any issues of the newsletter.

There are two easy ways to renew:

1. Fill out a membership renewal form in the front lobby before our monthly meeting and present it with \$20 (in cash or check) to the Treasurer.

2. Copy the information on your mailing label and send, with \$20, to:

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Treasurer, JACG  
826 2nd Place  
Plainfield, NJ 07060

>>>CHECK YOUR LABEL<<<  
>>>TODAY!<<<



## PET PEEVES

or...My computer makes me so mad  
I could spit, but I never  
spit on the keyboard.

by Patrick C. Madden, II - JAGC

Do you have a love/hate relationship with your computer? I certainly do. It's been that way ever since I tried to leave empty date fields in my first Synfile+ dataset. (Synfile+ doesn't like that and eventually freezes up the keyboard.) Still, after more than a year with my Atari 800XL, I don't regret my decision one byte. However, there have been some irritating moments along the way, and it's these minor annoyances I'd like to reflect on as we start the new year. Let's call them "peeves".

Peeve 1. The 800XL is supposed to have 64K bytes of memory. To me that means there ought to be 65,536 bytes available to me when I want to write a program. Of course that's not true. A 64K computer only has 64K when the power switch is in the off position. When you switch it on and allow the built-in BASIC to load, the 800XL becomes a 32K computer. It is some consolation that the Commodore 64 is also a 32K computer, but I still feel cheated.

Peeve 2. The 800XL comes with a standard keyboard. Well, almost standard. My keyboard has too "slashes", one under the question mark, and one on top of the seven. (Please excuse me for calling these slanted lines slashes. They are really virgules.) Of course the one over the seven isn't a slash at all but an apostrophy. Took me a while to find that out. Now I ask myself what it's doing up there every time I use a contraction.

Peeve 3. I bought a 1050 disk drive because I liked the idea of 50% extra storage capability. (Incidentally, how come Atari can only get 90K on a disk that IBM gets 360K?). With the disk drive I got a DOS 3 reference manual. This manual is about as easy to get through as ZORK II. Nowhere in the manual does it say that there is no software anywhere on earth written in DOS 3. This you have to find out on your own.

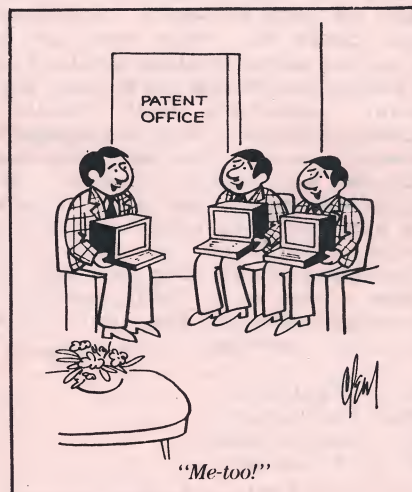
Peeve 4. Shortly after I purchased my Atari products they eliminated their toll-free customer relations number. Sometime after that they eliminated human beings on the other end of the phone line. The recorded message you get keeps reminding you that no human being will ever answer the phone no matter how long you wait. It keeps repeating things like, "If you want to replace your DOS 3 with DOS 2.5 just send in your DOS 3 disk and we will send you a replacement." I found that message encouraging because it implies that I'm not the only DOS 3 user in America.

Peeve 5. The reviews of Atari BASIC all said it wasn't as good as Micro-Soft BASIC. Big deal, I said. I don't need the best, I just need something that works. Recently,

(altogether too recently!) I found out how incredible some of the bugs in Atari's BASIC ROM are. My personal favorite is the one that appends 16 useless bytes to the end of each file each time it is saved. That's right, the program grows bigger each time it is saved. Not surprisingly, this can eventually cause you severe problems! I won't go into details, you can read more about it (and other bugs) in Ian Chadwick's book, Mapping the Atari, revised edition. To test whether you have the infamous bug-ridden revision B ROM, do a PEEK(43234). If you get 96, you've got it. Temporary fixes are available but I plan to write Atari for a replacement cartridge (revision C).

Peeve 6. Atari owners are second class citizens when it comes to software. I don't profess to know why that is, but maybe it's because Atari treats the software manufacturers like it treats its customers--shabbily. Don't get me wrong. I think Atari provides about the best hardware you can get for the price. But they have obviously slashed costs by eliminating documentation and support. It's tough to be a new Atari owner in this kind of climate. I'm surviving, but getting darned tired of having to solve a puzzle every time I want to try something different on the computer.

In a deeper sense though, all my problems may just be an indication that my reach is beginning to exceed my grasp. Learning to use one tool usually engenders thoughts of a better tool. What else can we expect when we're dealing with a technology that is revolutionizing our society and just can't catch up with its own breakthroughs? In the last analysis, I asked for these problems. And, frankly, as a computer hobbyist, I'm enjoying the opportunity to grapple with them. No, I still don't use the computer to balance my checkbook or do my taxes. But for word processing, file management, games and fun, it's fantastic. I even have a goal for 1986. I'm not going to rest until I find out what all those strings of numbers are at the end of all those BASIC programs I see in the computing magazines!





# Teacher's Pet A Complete Grading Program by Wm Brooks - JACG

Like most teachers, my first 14 years of teaching mathematics have often been frustrated by the vast amount of paper work and record keeping needed to do a professional job. Four years ago I started using computers and felt this might be the solution to my problem. But not until recently have I found a commercial program which would meet my needs like TEACHER'S PET has.

This is a two disk program, which I have successfully run on Atari 800, 800XL and 130XE computers. It is a complete grading program with excellent documentation. Uniquely, most of the pertinent information you need is on the screen while the program is in progress. Some of the program features are:

1. 50 students per class
2. 30 grades per student per class
3. Automatic recording of grades when you finish with each class
4. Option for making a back-up
5. Student names alphabetized as they are entered
6. ID numbers randomly given to each student
7. Grades may be weighed
8. Grades may be entered as a class or individually
9. Scores may be adjusted at anytime (add, delete or changed)
10. Student attendance records may also be kept
11. Individual student profiles are available (individual grades, average to date, class average on each grade, overall class average, and class rank and attendance are optional)
12. Class or individual student printouts are available
13. Individual, class or only students below a specific grade can have progress reports printed out
14. At the end of each term student averages are saved, and at the end of the course the final average can be produced.

This list merely highlights this program's main features. The rest would take too long to describe. After three months of daily use I highly recommend this program. If anyone has another program which does the same things, or more, I would be interested in hearing from you at Naquag School, Rutland, MA 01543.

As a side note, I recently received an upgraded version of the program for \$8.00, which eliminated a lot of cumbersome keystrokes. TEACHER'S PET is available from Someplace Special Software, 11 Woodland Drive, Troy, PA 16947.

Sue Ann Painintheeck

Date: April 1, 1985  
Course: English II  
Teacher: Mr. Teacher

To the Parent(s) or Guardian(s) of Sue Ann Painintheeck:

This letter is to inform you that Sue Ann is currently doing work that is unsatisfactory. Below is a detailed report of Sue Ann's scores at this point in the marking period. If you would like more information, please contact me through the school guidance office at your convenience.

Sincerely,

Mr. Teacher  
Mr. Teacher

#	POS	SC	AVSC	SCZ	AVZ	DESCRIPTION
1	26	18	20	69	77	Vocab Quiz 7B
2	22	16	18	73	82	Vocab Quiz 7AB
3	10	0	6	0	60	Homework p.489
4	70	48	50	69	71	CONTENDER Test
5	10	10	9	100	90	Homework p.510
6	26	8	17	31	65	Vocab Quiz 9A
7	26	20	20	77	77	Vocab Quiz 9B
8	70	59	58	84	83	Comma Test
9	22	16	18	73	82	Vocab Quiz 9AB
10	25	5	20	20	80	Vocab Quiz 10A
11	25	7	22	28	88	Vocab Quiz 10B
12	30	0	17	0	57	Composition #3
13	20	INC	18	N/A	90	Vocab Qz. 10AB
14	40	34	32	85	80	Speech

OPTIONAL  
score description

HANDLES UP  
TO 30 SCORES  
WITH DOUBLE  
COUNTS AFTER #15

Total points----- 241  
Total possible----- 402  
Student's Average----- 60X  
Class average----- 78X  
Grade----- F  
Class rank----- 17 of 17  
Classes missed----- 8

OPTIONAL  
OPTIONAL

KEY:  
POS = possible points for that score  
SC = Sue Ann's points for that score  
AVSC = class average for same score  
SCZ = Sue Ann's score in percent  
AVZ = class average in percent for same score  
INC = score not submitted  
N/A = not available because of unsubmitted score

Teacher comments:

Grading scale:  
92 --- 100 = A  
83 --- 91 = B  
74 --- 82 = C  
65 --- 73 = D  
BELOW 65 = F

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BELOW 65 = F

GIVE A BIT!!!



Two Hours A Year Isn't That Much



We need your ideas and articles to keep our newsletter the best.



## HOME COMPUTER MAGAZINE

by W.H. Schneider - JACG

At the October J.A.C.G. meeting a few members recommended this magazine to the general membership. My first thought was, great—just what I need, another subscription. I subscribe to 6 magazines (4 computer related) already. However they were adamant about its quality so I decided it was worth a look. I hit a few magazine stores during the week and drew blank stares. I gave up but the following week, the M.O.M. Atari club had "demo issues". Since then I have found it at the book store in the Echo Plaza Shopping Center on U.S. Highway #22 in Springfield. (Sidenote: This store discounts the magazine cover prices.)

Home Computer is the former Texas Instrument-specific magazine called 99'er. It has evolved into a periodical similar to Compute! magazine in that it covers Apple, Atari, Commodore, IBM, and TI. Unlike Compute! it does not seem to favor the C-machine. The coverage appears evenly divided between all brands.

The main difference it has to Compute! and all other computer magazines is the amount and type of advertising. The only ads are their own. These consist of books, back issues, and sister magazines. The editor states that this gives them a Consumers Reports type of perspective and therefore are not swayed by the advertisers revenue. I personally don't care for this approach. Without advertising it is difficult to survive in the long run. Unlike television commercials which are generally insulting, advertisements in magazines are somewhat informative and you can simply turn the page if you are looking at Mr. Whipple for the hundredth time.

The articles and reviews are informative and interesting. This issue had only 1 game and a variety of other programs. I find this a good mix. Magazine games were fine a few years ago but today there are too many discounted games available to type-in and play with a BASIC one. I think people buy computer magazines as a learning tool, not for games. One program, The Nanoprocessor, is a good example of interesting reading and education. The associated program illustrates the inner workings of a computer on the screen. The article contains a wealth of knowledge in easy to follow prose.

A yearly subscription costs \$25. This includes 10 issues and 2 free disks. A combination subscription (magazine and disk or cassette) averages out to \$7.26 each. The average cost with disk of ANALOG, is \$10.83 and Antic is \$8.33. Should you not wish to pay extra for the disk, typing the program listings yourself should be easier than with other magazines. There are blocks enclosing all letters which are clearly printed. To subscriber call 1-800-828-2212 and have your Visa or Master Charge card ready.



### IT HAPPENED: LIGHTNING KILLED

---

**A JACG member lost a Hayes Modem,  
an Atari 850, and a Prowriter  
Printer. Could you afford those \$?**

**YOU NEED PHONE LINE PROTECTION!!**

**BUY the BEST, TA-3.**

**The TA-3, with Spark-Gap & Varistor  
control, for "state-of-the-art"  
LIGHTNING PROTECTION!**

**The other look-a-likes are much  
less, usually ONLY Spark-Gaps.**

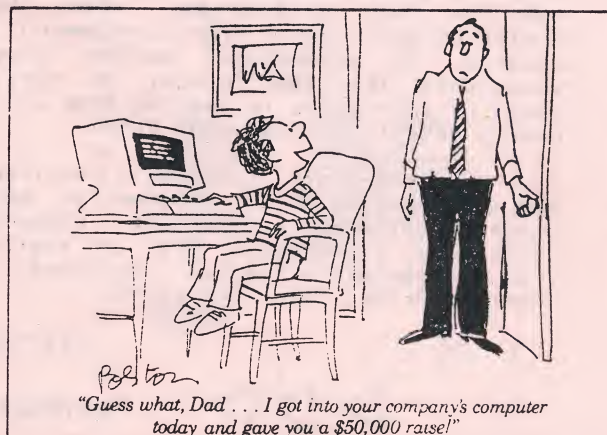
**This is static cling season.  
Static cling can do you in.  
Kids touch your open joystick port  
with a static charge on their body  
and ZAP goes your computer.**

**Next are Spring Lightning Boomers.  
Then Summer Hurricane Lightning.  
There is little safe time.**

**PROTECT YOURSELF for \$23 (no tax)**

---

**TOWACO ASSOCIATES  
BOX 7  
Towaco, NJ 07082  
(201) 334-4443**



*"Guess what, Dad... I got into your company's computer  
today and gave you a \$50,000 raise!"*

**Suburban Chicago Atarians**



## Playing Catch-up

by Bill Schneider - JACG

"If the aircraft industry had evolved as spectacularly as the computer industry over the past 25 years, a Boeing 767 would cost \$500 today and it would circle the globe in 20 minutes on five gallons of fuel." This analogy was in the December, 1982 Scientific American magazine article titled Personal Computers. Since then, computer costs have continued to drop and memory capacities increase.

The Motorola 68000 (\$450 in 1979) dropped in price to \$50 during 1984. In late 1985 Apple was rumored to be buying them for \$6 each. Semi-conductor prices are one-tenth of what they were in 1984. During the same period RAM memory capacity increased from 1000 bits per chip to the current standard of 256,000 bits.

Memory is the key to a computer's power and speed. The more memory, the faster, the more versatile, and the more efficient the computer can be. The original Apple in 1977 boasted that the basic model came with "a full 4K of RAM". This is equivalent to 2 pages of double-spaced text, hardly anything to brag about today. Personal computers available today have the same basic computing power as a mainframe computer did in the early 1960's and as a minicomputer did in the early 1970's.

In 1984 Motorola introduced the 68020, a true 32-bit chip. It is four times more powerful than the 68000 presently in use (Atari 520ST and Apple Macintosh). This microprocessor is capable of executing two to three million computer instructions per second. It can address up to four gigabytes of memory (4,294,967,296 bytes), which equals 2 million pages of double-spaced text. In November, 1985 Motorola successfully tested the 68020 at 20 MHz clock speed. The electronic clock synchronizes the computer's operations. The clock speed equates to how fast a chip runs, based on the number of cycles an electrical signal (bit) can make through the chip per second. One Hertz is equivalent to one cycle per second.

The Intel Corporation recently announced that the Intel 80386, 32-bit microprocessor would be commercially available in the second quarter of 1986. This chip operates at a sustained speed of up to 4 million instructions per second and has clock speeds of 12 and 16 MHz. It will address 64 trillion bytes of virtual memory and directly address 4 billion bytes of physical memory.

Motorola has hinted that upgrading from a 68000 to the 68020 may be as simple as a "plug-in" replacement, with total 68000 software compatibility. The Intel 80386 was designed specifically to be compatible with all the software written for the chips in the 8000 family. Although this non-obsolescence will help sales, it will not have a dramatic effect on the industry.

With this speed and memory potential these chips will make personal computers the equivalent of today's mainframe computers. Without proper software all this power will be wasted. It will take time for software to be designed which can take advantage of these chips. The January 1986 issue of PC World magazine, quotes Ben Rosen of Sevin Rosen Management; "Software-when it appears-that takes full advantage of the (IBM AT) 80286's memory, storage and multiuser capabilities will send PC sales skyrocketing. The effect will resemble the impact of Visicalc on Apple II sales."

Diminished computer sales will hinder future development. Decreased profits in the microchip industry will initially affect R&D allocations and ultimately survival. Since Japan will not permit the import of microchips, only the export (via VCR's, TV's, etc.), the U.S. manufacturers must look elsewhere to increase their sales. However this avenue is blocked by the Japanese also. Last year the U.S. Semiconductor Industry Association charged that the Japanese competition was selling their products below costs to capture markets. The International Trade Commission has made a preliminary finding that there is cause to question the pricing practices of Japanese semi-conductor manufacturers.

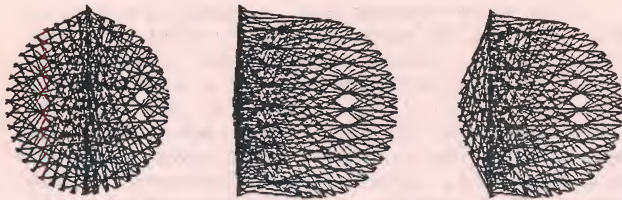
Just as MTV gave the music world new life and recreated growth throughout the industry, it is now up to the software and peripheral industries to catch up to these available and near-available microprocessors, and increase the market demand for PC's. Software and PC applications have to be more innovative and useful to create continued growth throughout the industry.

### \*\*\*\*\* FLEA MARKET RULES \*\*\*\*\*

In order to clarify the intention of the Executive Committee in sanctioning the use of the BTL lobby before and after monthly meetings for use as a member flea market we publish the following rules:

1. All flea market sellers must be current JACG members.
2. Space is provided on a first-come, first-served basis.
3. Only ORIGINAL programs with ORIGINAL documentation may be sold in the area of software.
4. Hardware of any type may be sold normally without constraint. The Executive Committee reserves the right, however, to limit the physical size and space consumed by such hardware.
5. Flea market business will be conducted only in the lobby and ONLY when the meeting is not in session in the auditorium.
6. The Executive Committee reserves the right to deny or suspend the privilege of flea market usage to any person, member or not, for infraction of these operating rules.





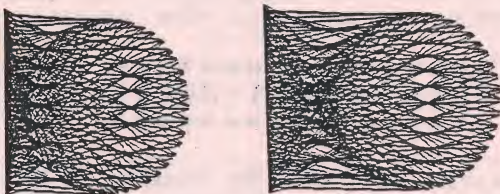
## An Interesting Observation

by Roy Lent - JACG

I was trying to do something quite different when I stumbled onto this effect. This is what is called serendipity. Or is it stupidity? Perhaps someone, who is more knowledgeable in trigonometry than I, can give a clear explanation of what happens when this program is run.

```
10 ?CHR$(125):Z=10:TRAP 20:COLOR 1
20 ? "INPUT Q";:INPUT Q
30 GRAPHICS 24:POKE 710,14:POKE 709,0:POKE 712,14
40 PLOT Q,Z
50 Y=100+(SIN(B)*80)
60 X=150+(COS(B)*80)
70 DRAWTO INT(X+0.5),INT(Y+0.5)
80 IF Z<>180 THEN Z=Z+1:B=B+1:GOTO 40
90 GOTO 90
```

You can give any value to Q from 0 to 319. This not only decides the position of the design but also changes the shape. A 'Q' of 150 seems to be the center. The value of 'B' can be anything; it doesn't matter, as the result will always be the same.



YOU SAY YOUR HERE IN ANSWER TO OUR AD FOR A PROGRAMMING WIZARD."



## VORTEX

by Mark Price - SBACE

Vortex creates a hypnotic pattern on the screen. The picture seems to be going away from you as it tries to draw you into the TV screen. Just type it in and RUN.

You are feeling very, very sleepy...

```
10 REM *** VORTEX ***
12 REM *** BY MARK PRICE - SBACE ***
200 GRAPHICS 23:SETCOLOR 4,6,4
210 FOR I=1536 TO 1565:READ J:POKE I,J:NEXT I
212 REM *** INSTALL DLI ROUTINE ***
220 J=PEEK(560)+256*PEEK(561)
222 REM *** SET DLI FLAGS ON ALL DISPLAY LINES ***
230 POKE J+3,205
240 FOR I=J+6 TO J+99:POKE I,141:NEXT I
250 POKE 512,0:POKE 513,6:POKE 54286,192
252 REM *** ENABLE THE DLI ROUTINE ***
299 REM *** PLOT CONTROL ***
300 COLOR 1:GOSUB 400:REM *** PLOT X ON
310 COLOR 0:GOSUB 400:GOTO 300
312 REM *** PLOT X OFF AND CYCLE BACK ***
399 REM *** PLOT CYCLE
400 POKE 77,128:FOR I=79 TO 0 STEP -1
410 PLOT 80,47:DRAWTO 159-I,1
420 PLOT 79,48:DRAWTO 1,95
430 PLOT 79,47:DRAWTO 1,1
440 PLOT 80,48:DRAWTO 159-I,95
450 NEXT I:RETURN
499 REM *** DATA FOR DLI ***
500 DATA 72,173,11,212,201,63,144,9
510 DATA 173,0,210,101,20,208,7,240
520 DATA 5,173,0,210,229,20,141,10
530 DATA 212,141,22,208,104,64
```



# Oh, No!

I Forgot To  
Write An  
Article For  
The Newsletter!  
(how selfish)



Articles should be submitted to the Editor by the 20th of the month for inclusion in the next issue. Submissions preferred on disk using Atariwriter. Use paragraph indentation marker (CTRL-P) if possible. Other file structures are acceptable as long as they are not in DOS 3. Do not insert special printer control codes unless absolutely needed. All formats will be considered, including hand written documents and transfer via modem, if first arranged with the Editor.

We encourage everyone to express his/her thoughts, knowledge and opinions as often as possible. Writing will be modified at the discretion of the Editor. No piece will be knowingly altered out of original context or intent.

\*\*\*\*\*

### SOURCES

#### Hardware-Software-Repair

for your ATARI. Asterisks indicate advertisements elsewhere in this newsletter.

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(201) 628-7318

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North Plainfield, NJ 07060  
(201) 561-8777  
Lebanon, NJ 08833

#### \*\*Sound Soft\*\*

Box 740, 10 Maple Avenue  
Andover, NJ 07821  
(201) 786-6060

#### \*\*Towaco Associates\*\*

Box 7  
Towaco, NJ 07082  
(201) 334-4443

#### \*\*Micro Concepts\*\*

(201) 577-0338

The above listings are free to current advertisers. Others interested in being listed in this column should send business address and telephone number with check for \$5 per month, payable to JACG, to Advertising Manager Helene Rotondo, 145 North Hillside Avenue, Chatham, NJ 07928.

Trading Post is a service for JACG members who wish to sell or swap items of any type. There is no charge for this service. Material must reach the Editor by the 20th of the month to be considered for inclusion in the following month's Trading Post. No commercial services or items will be accepted.

>>>>>>>><<<<<<<<

WANTED: Atari 800XL in good shape. Willing to pay up to \$60. Contact Sam at (201) 334-4443.

BOOKS FOR SALE: Your Atari Computer by Lon Poole and Atari BASIC by Albrecht, Finkel & Brown. Retail value of \$25.00; your price for the pair \$10.00. Call Frank Pazel at (201) 627-8845.

FOR SALE: KAYPRO 10 Portable Computer with 10 megabyte hard disk. Computer is 9 months old and in excellent condition (never had any problems with it). Software includes original bundled Wordstar (word processor), Mail Merge (plus Star Index), The Word Plus (spelling checker), DataStar, ReportStar, CalcStar, dBasell, Microplan, C-Basic, S-Basic, Mite and Automite, selected games. Additional software includes: PromptDoc, T/Maker III, CP/M-86, Turbo Pascal, Pascal 80, SuperCalc 2, Super SpellGuard, Punctuation and Style, AbStat, dUtil, dGraph, Quickcode and about a dozen books. Asking \$1500, will talk. Contact Arthur Leyerberger at (201) 887-2861.

FOR SALE: Digital (DEC) ribbon cartridges for LA12 printer. Brand new in boxes. We accidentally got twelve of them and distributor won't take them back. Our loss is your gain. Retail value is about \$90. Make an offer. Call Frank Pazel at (201) 627-8845.

FOR SALE: Original RAMBRANDT - Minicomputer painting power, supports popular B&W printers and Color Okimate, Koala Pad & Touch Tablet too! \$10 (\$19.95 list) Call W. Heck at (201) 338-5367 after 5 pm.

### ◆ ◆ ◆ ◆ ◆

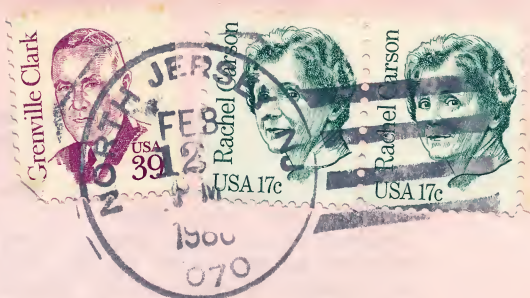
## THE DISK LIBRARY

NEEDS YOUR CONTRIBUTION

Share Your Original Program With Us



#####  
# J A C G #  
# JERSEY ATARI COMPUTER GROUP #  
# 14 WHITMAN DRIVE #  
# DENVILLE, NEW JERSEY 07834 #  
#####



FIRST CLASS MAIL



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**JACG NEWSLETTER - VOLUME 5, NUMBER 6**  
**February 1986**

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**Treasurer:** Shree Vandenberg  
826 2nd Place  
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(201) 753-2416

**Editor:** Frank Pazel  
14 Whitman Drive  
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118 Shady Lane  
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directly to Mail Order Librarian  
and make remittance payable to  
J.A.C.G.

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